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EXAMINER
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NGUYEN, LUONG TRUNG

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/631,175

Applicant(s)

VANCE ET AL.

Examiner

LUONG T NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-19 and 24-36 is/are rejected.
- 7) ☒ Claim(s) 5-8, 20-23 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2, 3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "66" has been used to designate both "cavity 66" and "spring clip 66" as shown in Figure 4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because the informalities:

In Figure 4, "70" should be changed to --72--.

In Figure 13, " 52" " should be changed to --60"--.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the

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printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

4. The abstract of the disclosure is objected to because the abstract uses the legal phraseology often used in patent claims, such as "said". Correction is required. See MPEP § 608.01(b).

5. The disclosure is objected to because of the following informalities:

The same number 66 is labeled for "spring clip 66" (page 5, line 17) and "cavity 66" (page 5, line 21; and page 6, line 2).

In page 6, line 8, "movable mirror 58" should be changed to --movable mirror 56--.

In page 10, line 7, "embodiment of Figure," should be changed to --embodiment of Figure 13,--.

In page 10, line 8, the specification discloses " the rotating mirror assembly 60 and 60' ", however, this feature is not shown in the drawing. It should be noted that the labeled 60 is used labeled for "spherical housing 60" as disclosed in page 5, lines 12-13, figure 4.

Appropriate correction is required.

### *Claim Objections*

6. Claims 1-37 are objected to because of the following informalities:

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Claim 1 (lines 10-11), "processing electrical signals" should be changed to --processing the electrical signals--.

Claim 4 (line 2), "a first image path" should be changed to --said first image path--.

Claim 4 (line 3), "a first position" should be changed to --the first position--.

Claim 4 (lines 4-5), "a second position" should be changed to --the second position--.

Claim 6 (line 2), "a first position and a second position" should be changed to --the first position and the second position--.

Claim 8 (line 3), "said image" should be changed to --said images--.

Claim 10 (line 2), "said first image path" should be changed to --a first image path--.

Claim 10 (lines 2-3), "said second image path" should be changed to --a second image path--.

Claim 11 (line 3), "a first position" should be changed to --the first position--.

Claim 11 (lines 3-4), "a first image path" should be changed to --said first image path--.

Claim 11 (line 4), "a second position" should be changed to --the second position--.

Claim 11 (line 5), "a second image path" should be changed to --said second image path--.

Claim 15 (line 1), "said first aperture" should be changed to --said first light aperture--.

Claim 15 (line 2), "said display" should be changed to --a display--.

Claim 15 (line 2), "said second aperture" should be changed to --said second light aperture--.

Claim 16 (lines 12-13), "processing electrical signals" should be changed to --processing the electrical signals--.

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Claim 19 (line 2), "a first image path" should be changed to --said first image path--.

Claim 22 (line 4), "a second image path" should be changed to --said second image path--.

Claim 23 (line 3), "said image" should be changed to --said images--.

Claim 25 (lines 1-2), "said first image path" should be changed to --a first image path--.

Claim 25 (line 2), "said second image path" should be changed to --a second image path--.

Claim 26 (line 20), "said mirror assembly" should be changed to -- said movable mirror assembly--.

Claim 26 (line 3), "a first image path" should be changed to --said first image path--.

Claim 26 (lines 4-5), "a second image path" should be changed to --said second image path--.

Claim 27 (line 1), "said first image path" should be changed to --a first image path--.

Claim 27 (line 2), "said second image path" should be changed to --a second image path--.

Claim 29 (line 3), "an movable mirror assembly" should be changed to -- a movable mirror assembly--.

Claim 29 (line 5), "said mirror assembly" should be changed to -- said movable mirror assembly--.

Claim 29 (line 8), "said mirror assembly" should be changed to -- said movable mirror assembly--.

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Claim 27 is an apparatus claim; claim 30 as recited is a method claim, therefore, the method claim 30 cannot depend on apparatus claim 27. For the purpose of examining, the Examiner considers method claim 30 is dependent on method claim 29. Therefore, in claim 30 (line 1), "the method of claim 27" should be changed to --the method of claim 29--.

Claim 28 is an apparatus claim; claim 31 as recited is a method claim, therefore, the method claim 31 cannot depend on apparatus claim 28. For the purpose of examining, the Examiner considers method claim 31 is dependent on method claim 30. Therefore, in claim 31 (line 1), "the method of claim 28" should be changed to --the method of claim 30--.

Claim 28 is an apparatus claim; claim 32 as recited is a method claim, therefore, the method claim 32 cannot depend on apparatus claim 28. For the purpose of examining, the Examiner considers method claim 32 is dependent on method claim 30. Therefore, in claim 32 (line 1), "the method of claim 28" should be changed to --the method of claim 30--.

Claim 33 (line 3), "the image" should be changed to --the first image--.

Claims 2-15 are objected as being dependent on claim 1.

Claims 11, 15 are objected as being dependent on claim 9.

Claims 17-28 are objected as being dependent on claim 16.

Claim 26 is objected as being dependent on claim 25.

Claims 34-37 are objected as being dependent on claim 33.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4, 9, 12-13, 14, 33-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Saari et al., Embodiment Figure 5 (U. S. Patent No. 6,532,035).

Regarding claim 1, Saari et al., Embodiment Figure 5, discloses a combination mobile terminal and camera (mobile communication terminal 100, Figure 5, Column 5, Lines 60-65) comprising a housing (mobile phone case 114, Figure 5, Column 6, Lines 8-24) having a first light aperture formed in a first side of said housing (aperture 124 on the sidewall 126 of the case 114, Figure 5, Column 6, Lines 8-24) and a second light aperture formed in a second side of said housing (the aperture in rear wall 112 of the mobile phone case 114 for attaching lens 108, Figure 5, Column 6, Lines 8-24); a wireless transceiver disposed within said housing for transmitting and receiving signals (the mobile communication 10 may include an infrared communication port or transmitter 46 for transferring information to and from the mobile communication terminal 10 (Figures 5, Column 5, Lines 16-21, 35-48, 60-67; an image sensor disposed within said housing for converting images formed by light on said image sensor into electrical signals (image capturing means 72 carried by camera body 104, Figures 5, 12, Column 6, Lines 1-7, Lines 59-62, Column 7, Lines 48-55); an optical system for selectively directing light passing through said first and second light apertures onto said image sensor (combination of



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closed-up lens 108, camera lens 106 and flat mirror reflector 116, the mirror 116 selectively pivot to direct light passing through lens 108 and aperture 124 onto the image capturing means 72, Figures 5, 12, Column 6, Lines 8-24); and an image processor coupled to an output of said image sensor for processing electrical signals from said image sensor to produce image signals (the mobile communication terminal 100 can capture image and store for subsequent download and/or transmission to another terminal or mobile terminal communication device of another user, Column 5, Lines 35-48, 60-67, therefore, an image processor is included in the mobile communication terminal 100).

Regarding claim 2, Saari et al., Embodiment Figure 5, discloses the optical system comprises a mirror assembly having at least one movable mirror (flat mirror reflector 116, Figure 5, Column 6, Lines 8-24), said mirror assembly being movable between a first position to direct light entering through said first light aperture along a first image path onto said image sensor (the mirror 116 selectively pivot to direct light passing through aperture 124, which is on the sidewall 126, onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24); and a second position to direct light entering through said second light aperture along a second image path onto said image sensor (the mirror 116 selectively pivot to direct light passing through lens 108, which is on the rear wall 112, onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 3, Saari et al., Embodiment Figure 5, discloses mirror assembly comprises at least one movable mirror rotatable between at least first and second positions (flat

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mirror reflector 116 pivots between aperture 124 on the sidewall 126 (first position) and lens 108 on the rear wall 112 (second position), Figure 5, Column 6, Lines 8-24).

Regarding claim 4, Saari et al., Embodiment Figure 5, discloses movable mirror directs light entering through said first light aperture along a first image path onto said image sensor when disposed in a first position (the mirror 116 selectively pivot to direct light passing through aperture 124 located on the sidewall 126 onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24) and directs light entering through said second light aperture along said second image path onto said image sensor when disposed in a second position (the mirror 116 selectively pivot to direct light passing through lens 108 located on the rear wall 112 onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 9, Saari et al., Embodiment Figure 5, discloses the optical system further comprises at least one lens (close-up lens 108, Figure 5, Column 6, Lines 8-24).

Regarding claim 12, Saari et al., discloses a first lens (lens 70, Figure 10) disposed along said first image path (the optical path for directing light from image 82 passing lens 70 when the flat mirror 84 rotates to the horizontal position as shown in Figure 10) and a second lens (close-up lens 76) disposed along said second image path (the optical path for directing light from image 74 passing lens 70 when the flat mirror rotates to position 88 as shown in Figure 10).

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Regarding claim 13, Saari et al., discloses first and second lenses are fixed (lens 70 and 72 are fixed, Figure 10, Column 7, Lines 22-35).

Regarding claim 14, Saari et al., Embodiment Figure 5, discloses a display (screen 130, Figure 5, Column 6, Lines 35-40).

Regarding claim 33, Saari et al., Embodiment Figure 5, discloses a method of directing multiple images through multiple apertures onto an image sensor (capturing means in the camera body 104, Column 6, Lines 1-24) comprising recording a first image by directing the image through a first aperture onto a mirror assembly (the flat mirror reflector 116 selectively pivot to direct light passing through aperture 124, which is on the sidewall 126, onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24); reflecting the first image from the mirror assembly and directing the reflected first image onto the image sensor (the flat mirror reflector 116 selectively pivot to direct light passing through aperture 124, which is on the sidewall 126, onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24); recording a second image by directing the second image through a second aperture onto the mirror assembly (the flat mirror reflector 116 selectively pivot to direct light passing through lens 108, which is on the rear wall 112, onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24); and reflecting the second image from the mirror assembly and directing the reflected second image onto the image sensor (the flat mirror reflector 116 selectively pivot to direct light passing through lens 108, which is on the rear wall

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112, onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 34, Saari et al., Embodiment Figure 5, discloses the mirror assembly includes a single mirror (the flat mirror reflector 116, Column 6, Lines 8-24), and wherein the first and second images are reflected from the single mirror onto the image sensor (the flat mirror reflector 116 selectively pivot to direct light passing through aperture 124 on the sidewall 126 and through lens 108 on the rear wall 112 onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 35, Saari et al., Embodiment Figure 5, discloses the single mirror is movable between first and second positions (the flat mirror reflector 116 selectively pivot to direct light passing through aperture 124 on the sidewall 126 and through lens 108 on the rear wall 112 onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24), and wherein in the first position said single mirror aligns with said first aperture (Figure 5 shows mirror 116 aligns with aperture 124, Column 6, Lines 8-24), and wherein in said second position said single mirror aligns with said second aperture (Figure 5 shows mirror 116 aligns with lens 108, Column 6, Lines 8-24).

Regarding claim 36, Saari et al., Embodiment Figure 5, discloses the single mirror is rotatable between first and second positions (the flat mirror reflector 116 selectively pivot to direct light passing through aperture 124 on the sidewall 126 and through lens 108 on the rear

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wall 112 onto the image capturing means located in camera body 104, Figure 5, Column 6, Lines 1-24).

9. Claims 1, 9-10, 15, 16, 24-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Saari et al., Embodiment Figures 1-3 (U. S. Patent No. 6,532,035).

Regarding claim 1, Saari et al., Embodiment Figures 1-3, discloses a combination mobile terminal and camera (mobile communication terminal 10, Figure 1, Column 3, Lines 63-67) comprising a housing (housing 12, Figure 1, Column 3, Lines 63-67) having a first light aperture formed in a first side of said housing (Figure 2 shows the lens 32 captures the image of the user holds the communication terminal, therefore, a first light aperture is located in front wall of the mobile communication terminal 10 in order to let light pass into the lens 32, Column 5, Lines 26-34) and a second light aperture formed in a second side of said housing (aperture 50 in the rear wall surface 52 of the housing 12, Figure 3, Column 5, Lines 35-47); a wireless transceiver disposed within said housing for transmitting and receiving signals (the mobile communication 10 may include an infrared communication port or transmitter 46 for transferring information to and from the mobile communication terminal 10 (Figures 1, Column 5, Lines 16-21, 35-48, 60-67; an image sensor disposed within said housing for converting images formed by light on said image sensor into electrical signals (image capturing means included in camera assembly 20, Figures 1, Column 4, Lines 41-46); an optical system for selectively directing light passing through said first and second light apertures onto said image sensor (lens 32, Figures 1-3 discloses that camera assembly rotates so that the lens 32 can capture image in the front or the back of the mobile communication terminal 10, Column 5, Lines 26-48); and an image

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processor coupled to an output of said image sensor for processing electrical signals from said image sensor to produce image signals (the mobile communication terminal 10 can capture image and store for subsequent download and/or transmission to another terminal or mobile terminal communication device of another user, Column 5, Lines 35-48, therefore, an image processor is included in the mobile communication terminal 10).

Regarding claim 9, Saari et al., Embodiment Figures 1-3, discloses the optical system further comprises at least one lens (lens 32, Figure 1, Column 4, Lines 42-46).

Regarding claim 10, Saari et al., Embodiment Figures 1-3, discloses the lens is movable between a first position along a first image path to a second position along a second image path (Figure 2 shows the lens 32 is in the front ward direction of the housing case 12 (first image path), Figure 3 shows the lens 32 is in the rear ward direction of the housing case 12 (second image path)).

Regarding claim 15, Saari et al., Embodiment Figures 1-3, discloses first aperture faces in the direction of said display (Figure 2 shows the lens 32 captures the image of the user holds the communication terminal, therefore, a first light aperture is located in front wall of the mobile communication terminal 10 in order to let light pass into the lens 32, Column 5, Lines 26-34) and said second aperture faces in the direction opposite said display (aperture 50 in the rear wall surface 52 of the housing 12, it is in the direction opposite screen 16, Figure 3, Column 5, Lines 35-47).

Regarding claim 16, Saari et al., Embodiment Figures 1-3, discloses a combination mobile terminal and camera (mobile communication terminal 10, Figure 1, Column 3, Lines 63-67) comprising a housing (housing 12, Figure 1, Column 3, Lines 63-67) having a first light aperture formed in a first side of said housing and facing in the direction of said display (Figure 2 shows the lens 32 captures the image of the user holds the communication terminal, therefore, a first light aperture is located on the front wall of the mobile communication terminal 10 (facing in the direction of screen 16) in order to let light pass into the lens 32, Column 5, Lines 26-34); a second light aperture formed in a second side of said housing and facing in a direction opposite said display (aperture 50 in the rear wall surface 52 of the housing 12, Figure 3, Column 5, Lines 35-47); an image sensor disposed within said housing for converting images formed by light on said image sensor into electrical signals (image capturing means included in camera assembly 20, Figures 1, Column 4, Lines 41-46); an optical system for selectively directing light passing through said first and second light apertures onto said image sensor (lens 32, Figures 1-3 discloses that camera assembly 20 rotates so that the lens 32 can capture image in the front or the back of the mobile communication terminal 10, Column 5, Lines 26-48); and an image processor coupled to an output of said image sensor for processing electrical signals from said image sensor to produce image signals (the mobile communication terminal 10 can capture image and store for subsequent download and/or transmission to another terminal or mobile terminal communication device of another user, Column 5, Lines 35-48, therefore, an image processor is included in the mobile communication terminal 10).

Regarding claim 24, Saari et al., Embodiment Figures 1-3, discloses the optical system further comprises at least one lens (lens 32, Figure 1, Column 4, Lines 42-46).

Regarding claim 25, Saari et al., Embodiment Figures 1-3, discloses the lens is movable between a first position along a first image path to a second position along a second image path (Figure 2 shows the lens 32 is in the front ward direction of the housing case 12 (first image path), Figure 3 shows the lens 32 is in the rear ward direction of the housing case 12 (second image path)).

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 11, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al., Embodiment Figures 1-3, in view of Embodiment Figure 5 (U. S. Patent No. 6,532,035).

Regarding claim 11, Saari et al., Embodiment Figures 1-3, fail to specifically disclose a movable mirror assembly having at least one movable mirror, said mirror assembly being movable between a first position to direct light entering through said first light aperture along a first image path onto said image sensor and a second position to direct light entering through said second light aperture along a second image path onto said image sensor. However, Saari et al.,



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Embodiment Figure 5, discloses the flat reflector mirror 116, which selectively pivot to direct light entering the aperture 124 on the sidewall 126 of the mobile phone case 114 or direct light entering the close-up lens 108 mounted in the rear wall 112 of the mobile phone case 114, Figure 5, Column 6, Lines 8-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a movable mirror as taught in Saari et al., Embodiment Figure 5, into the Embodiment Figures 1-3 in order to select an optical path without rotating camera assembly of the camera mobile phone.

Regarding claim 26, Saari et al., Embodiment Figures 1-3, fail to specifically disclose a movable mirror assembly having at least one movable mirror, said mirror assembly being movable between a first position to direct light entering through said first light aperture along a first image path onto said image sensor and a second position to direct light entering through said second light aperture along a second image path onto said image sensor. However, Saari et al., Embodiment Figure 5, discloses the flat reflector mirror 116, which selectively pivot to direct light entering the aperture 124 on the sidewall 126 of the mobile phone case 114 or direct light entering the close-up lens 108 mounted in the rear wall 112 of the mobile phone case 114, Figure 5, Column 6, Lines 8-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a movable mirror as taught in Saari et al., Embodiment Figure 5, into the Embodiment Figures 1-3 in order to select an optical path without rotating camera assembly of the camera mobile phone.

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12. Claims 16-19, 24, 27-28, 29-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saari et al., Embodiment Figure 5, in view of Embodiment Figures 1-3 (U. S. Patent No. 6,532,035).

Regarding claim 16, Saari et al., Embodiment Figure 5, discloses a camera comprising a housing (mobile phone case 114, Figure 5, Column 6, Lines 8-10); a display mounted in said housing (screen 130, Figure 5, Column 6, Lines 35-40); a first light aperture formed in a first side of said housing (aperture 124 on the sidewall 126 of the case 114, Figure 5, Column 6, Lines 8-24); a second light aperture formed in a second side of said housing and facing in a direction opposite said display (the aperture in rear wall 112 of the mobile phone case 114 for attaching lens 108, the rear wall 112 faces in a direction opposite to screen 130, Figure 5, Column 6, Lines 8-24); an image sensor disposed within said housing for converting images formed by light on said image sensor into electrical signals (image capturing means 72 carried by camera body 104, Figures 5, 12, Column 6, Lines 1-7, Lines 59-62, Column 7, Lines 48-55); an optical system for selectively directing light passing through said first and second light apertures onto said image sensor (combination of closed-up lens 108, camera lens 106 and flat mirror reflector 116, the mirror 116 selectively pivot to direct light passing through aperture 124 on the sidewall 126 of the case 114 and lens 108 in the rear wall 112 of the case 114 onto the image capturing means 72, Figures 5, 12, Column 6, Lines 8-24); and an image processor coupled to an output of said image sensor for processing electrical signals from said image sensor to produce image signals (the mobile communication terminal 100 can capture image and store for subsequent download and/or transmission to another terminal or mobile terminal communication device of another

user, Column 5, Lines 35-48, 60-67, therefore, an image processor is included in the mobile communication terminal 100).

Saari et al., Embodiment Figure 5, silences regarding a first light aperture facing in the direction of the display. However, Saari et al., Figure 2, discloses that the camera assembly 20 rotates to the video conferencing position so that the lens 32 captures the image of the user hold the communication terminal (Figure 2, Column 5, Lines 27-34). This clearly discloses a light aperture, which is on the forward facing section 14 of the housing 12 and faces in the direction of screen 16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a light aperture facing in the direction of the display into the mobile communication terminal 100 in Figure 5 of Saari et al. in order to capture the image of the user hold the mobile communication terminal. This allows a user the capability to view his or her own image when the image is taken and the user holds the mobile communication terminal at one position.

Regarding claim 17, Saari et al., Embodiment Figure 5, discloses the optical system comprises a mirror assembly having at least one movable mirror (flat mirror reflector 116, Figure 5, Column 6, Lines 8-24), said mirror assembly being movable between a first position to direct light entering through said first light aperture along a first image path onto said image sensor (the mirror 116 selectively pivot to direct light passing through aperture 124, which is on the sidewall 126, onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24); and a second position to direct light entering through said second light aperture along a second image path onto said image sensor (the mirror 116 selectively pivot to direct light passing

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through lens 108, which is on the rear wall 112, onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 18, Saari et al., Embodiment Figure 5, discloses mirror assembly comprises at least one movable mirror rotatable between at least first and second positions (flat mirror reflector 116 pivots between aperture 124 on the sidewall 126 (first position) and lens 108 on the rear wall 112 (second position), Figure 5, Column 6, Lines 8-24).

Regarding claim 19, Saari et al., Embodiment Figure 5, discloses the movable mirror directs light entering through said first light aperture along a first image path onto said image sensor when disposed in a first position (the mirror 116 selectively pivot to direct light passing through aperture 124 located on the sidewall 126 onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24) and directs light entering through said second light aperture along said second image path onto said image sensor when disposed in a second position (the mirror 116 selectively pivot to direct light passing through lens 108 located on the rear wall 112 onto the image capturing means 72 located in camera body 104, Figure 5, Column 6, Lines 1-24).

Regarding claim 24, Saari et al., Embodiment Figure 5, discloses the optical system further comprises at least one lens (close-up lens 108, Figure 5, Column 6, Lines 8-24).

Regarding claim 27, Saari et al., discloses a first lens (lens 70, Figure 10) disposed along said first image path (the optical path for directing light from image 82 passing lens 70 when the flat mirror 84 rotates to the horizontal position as shown in Figure 10) and a second lens (close-up lens 76) disposed along said second image path (the optical path for directing light from image 74 passing lens 70 when the flat mirror rotates to position 88 as shown in Figure 10).

Regarding claim 28, Saari et al., discloses first and second lenses are fixed (lens 70 and 72 are fixed, Figure 10, Column 7, Lines 22-35).

Regarding claim 29, Saari et al., Embodiment Figure 5, discloses a method for selectively displaying images seen through first and second apertures of a camera, the method comprising providing an movable mirror assembly for selectively directing light entering through said first and second apertures onto an image sensor to capture an image (flat mirror reflector 116 selectively pivot to direct light passing through aperture 124 and lens 108 onto the image capturing means 72, Figures 5, 12, Column 6, Lines 8-24); positioning said mirror assembly in a first position to direct light entering through said first light aperture along a first image path to capture an image seen through said first light aperture (the position where the mirror 116 direct light passing through aperture 124, which is on the sidewall 126, onto the image capturing means in the camera body 104, Column 6, Lines 1-24); and positioning said mirror assembly in a second position to direct light entering through said second light aperture along a second image path to capture an image seen through said second light aperture (the position where the mirror

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116 direct light passing through lens 108, which is on the rear wall 112, onto the image capturing means in the camera body 104, Column 6, Lines 1-24).

Saari et al., Embodiment Figure 5, silences regarding first and second apertures of a camera facing in opposing direction. However, Saari et al., Figure 5 discloses an aperture on the rear wall 112 of the mobile phone case 114 (lens 108, Figure 5, Column 6, Lines 8-24), and Saari et al., Figure 2, discloses that the camera assembly 20 rotates to the video conferencing position so that the lens 32 captures the image of the user hold the communication terminal (Figure 2, Column 5, Lines 27-34). This clearly discloses a light aperture, which is on the forward facing section 14 of the housing 12 and faces in the direction of screen 16. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a light aperture into the frontward of the mobile phone case 114 of the mobile communication terminal 100 in Figure 5 of Saari et al. in order to capture the image of the user hold the mobile communication terminal. This allows a user the capability to view his or her own image when the image is taken and the user holds the mobile communication terminal at one position.

Regarding claim 30, Saari et al., Embodiment Figure 5, discloses the mirror assembly comprises a movable mirror (mirror 116, Column 6, Lines 8-24) and wherein positioning said mirror assembly in said first and second positions comprises moving said mirror between said first and second positions (the mirror 116 selectively pivot to direct light passing through the aperture 124 on the sidewall 126 and through lens 108 located on the rear wall 112, Figure 5, Column 6, Lines 1-24).

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Regarding claim 31, Saari et al., Embodiment Figure 5, discloses the movable mirror is rotatable and wherein moving the movable mirror between said first and second positions comprises rotating the movable mirror between said first and second positions (the mirror 116 selectively pivot to direct light passing through the aperture 124 on the sidewall 126 and through lens 108 located on the rear wall 112, Figure 5, Column 6, Lines 1-24).

Regarding claim 32, Saari et al., discloses moving said movable mirror between said first and second positions comprises sliding said movable mirror between said first and second position (Figure 11 shows that mirror 90 slides between two positions, Column 7, Lines 39-48).

*Allowable Subject Matter*

13. Claims 5-8, 20-23, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, Sarri et al. discloses a mobile phone, which includes a rotatable mirror 116 but fails to show or fairly suggest a combination mobile terminal and camera comprising at least first and second movable mirrors (sliding mirror assembly 60", which includes two mirrors 56") as disclosed in specification, page 10 and shown in Figure 13.

Claims 6-7 are allowance for the reason given respect to claim 5.

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Regarding claim 8, the prior art of the record fails to show or fairly suggest a combination mobile terminal and camera comprising a position detector to detect the position of said mirror assembly, said image processor being responsive to a signal from said position detector to invert said image when said mirror assembly is in one of said first and second positions.

Regarding claim 20, Sarri et al. discloses a mobile phone, which includes a rotatable mirror 116 but fails to show or fairly suggest a combination mobile terminal and camera comprising at least first and second movable mirrors (sliding mirror assembly 60", which includes two mirrors 56") as disclosed in specification, page 10 and shown in Figure 13.

Claims 21-23 are allowance for the reason given respect to claim 20.

Regarding claim 37, Sarri et al. discloses a mobile phone, which includes a rotatable mirror 116 but fails to show or fairly suggest a combination mobile terminal and camera comprises a mirror assembly which includes first and second mirrors movable between first and second positions, and wherein in said first position said first mirror aligns with said first aperture, and wherein in said second position said second mirror aligns with said second aperture (sliding mirror assembly 60", which includes two mirrors 56") as disclosed in specification, page 10 and shown in Figure 13.

### ***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



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Umezawa et al. (U. S. Patent 5,491,507) discloses a video telephone equipment.

Kimura (U. S. Patent 5,940,126) discloses multiple image video camera apparatus.

Lee et al. (U. S. Patent 6,137,525) discloses personal data communication apparatus.

Robb (U.S. Patent 6,177,950) discloses multifunctional portable telephone.

Nozawa et al. (U. S. Patent 6,339,508) discloses photographic optical system.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LUONG T NGUYEN whose telephone number is (703) 308-9297. The examiner can normally be reached on 7:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LN

3/7/2004



**LUONG T. NGUYEN**  
**PATENT EXAMINER**